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To enrich lives through effective and caring service.

November 5, 2009

To: Each Supervisor

From: Tom Tindall
Director

Subject: **REMANUFACTURED PRINTER TONER CARTRIDGES PILOT PROGRAM**

On May 26, 2009, ISD last reported to your Board on the status of a pilot project to require the use of remanufactured toner cartridges in desktop printers and copiers for three departments: ISD, Public Works and the Auditor-Controller (report attached).

The pilot has concluded, and we have determined that remanufactured laser toner printer cartridges are cost effective for non-color printing. This report provides the detailed results of the pilot project.

Scope of the Pilot Project

The following actions were taken during the pilot project:

1. The participating departments identified desktop printers/copiers having remanufactured laser toner cartridges available. The following equipment was included in the pilot project: 150 printers/copiers from Public Works, 100 printer/copiers from the Auditor-Controller, and 198 printer/copiers from ISD. All units had replacement toner cartridges installed by June 18, 2009.
2. The pilot departments used a standardized reporting process to track information. This included tracking: (a) desktop printer/copier by department, model number, location; (b) the remanufactured laser toner cartridge model number, cost, remanufacture name; (c) Original Equipment Manufacturer (OEM) laser toner cartridge number and cost; (d) number of prints/copies produced with remanufactured laser toner cartridge versus OEM specification; and (e) quality related issues.
3. The pilot provided for a standard reporting, documentation and resolution process in case of equipment malfunction caused by a remanufactured cartridge.
4. Products designated for this pilot project were purchased from County agreement vendors that maintain quality standards and provide recycling programs for returned cartridges and disposal of end-of-life cartridges in a manner that complies with all environmental and health and safety laws.

Pilot Project Performance Results

Of the 448 equipment units involved in the pilot, six (1%) remanufactured laser toner cartridges were determined to be defective and were replaced with another remanufactured laser toner cartridge. The defective cartridges did not cause any damage to the copier/printer.

The remanufactured cartridges generally performed to standard and met the expected page yield (the number of pages produced) as stated by the manufacturers. Further, the remanufactured cartridges met or exceeded the page yield of the OEM equivalent. The remanufactured cartridges were found to provide copies/prints with quality equivalent to the OEM cartridge.

One exception to this general finding was in the area of color printing. The pilot study identified difficulties in obtaining remanufactured color toner cartridges that produce copies/prints of equivalent quality to OEM cartridges. Because color toner powder is comprised of smaller particles than monochrome powder, the production of color cartridges must be tightly controlled to produce quality color images.

Toner Cartridge Costs

The total cost of remanufactured toner cartridges for the pilot project was \$18,644. The equivalent cost of OEM toner cartridges would have been \$42,491. This reflects a savings of \$23,847 (56%) compared to the purchase of OEM cartridges.

Remanufactured laser toner cartridges are currently available for approximately 20% of the cartridges that are on County purchase agreements. With an annual purchase cost of approximately \$3.4 million by County departments for OEM toner cartridges, the equivalent substitution for available remanufactured toner cartridges could yield significant annual savings.

Equipment Warranty/End-of-Life Programs

Pursuant to the County's agreement terms with remanufactured laser toner cartridge vendors, any damage resulting from a cartridge malfunction to the printer/copier must be repaired by the vendor. Vendors are responsible to provide a factory trained and authorized technician to repair the equipment or reimburse the customer for the full amount of the repair of the equipment. If the equipment is beyond repair, the vendor agrees to replace the equipment. All agreement vendors have committed to dispose of end-of-life cartridges in a manner that complies with all environmental and health and safety laws.

Each Supervisor
November 5, 2009
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Recommendation

Based on the results of the pilot project, we recommend that County departments purchase remanufactured laser toner cartridges, where available, for all desktop printer and copiers. All cartridges should be purchased from a Standardized Test Methods Committee (STMC) certified manufacturer.

However, for color printers, we recommend that County departments purchase only OEM color toner cartridges.

If you have questions, please contact me at (323) 267-2101, or Joe Sandoval at (323) 267-2109.

TT:j

Attachment

c: ISD Board Deputies
Chief Executive Officer
Ellen Sandt, DCEO
Gail Farber, Public Works
Wendy Watanabe, Auditor-Controller



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Telephone: (323) 267-2101
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May 26, 2009

To: Each Supervisor

From: Tom Tindall
Director

Subject: **REMANUFACTURED PRINTER TONER CARTRIDGES – PILOT PROGRAM**

On December 23, 2008, ISD reported to your Board regarding the implementation of a pilot project requiring the exclusive use of remanufactured toner cartridges in all desktop printers and copiers for three departments, Internal Services, Public Works and the Auditor-Controller (report attached). The purpose of this memo is to provide a status of that effort.

ISD convened a working group from the three departments beginning in January 2009 to develop implementation requirements and timelines. Each department was required to identify all desktop printers and copiers, the manufacturer and model numbers, asset and serial numbers, the existing toner cartridges used in each machine, and the locations of equipment.

By early March 2009, this initial effort was 90% complete. Where we identified equivalent remanufactured toner cartridges, we had begun efforts to obtain the cartridges. However, due to the County-wide expenditure curtailments in office supply acquisitions, we temporarily suspended the pilot project.

Working with the other participating departments, we have identified a way to continue the evaluation process, albeit on a scaled back basis. This includes identifying a percentage of departmental machines for the pilot, and limiting the procurement efforts of remanufactured cartridges to only the identified equipment.

Based on the revised project scope, we would need to extend the pilot project report back to your Board from June 30, 2009 to October 29, 2009.

Should you have any questions, please contact me, or your staff may contact Joe Sandoval, at (323) 267-2109, or via email at: jsandoval@isd.lacounty.gov.

TT:j

Attachment

c: ISD Board Deputies
Chief Executive Officer
Ellen Sandt, CEO
Gail Farber, DPW
Wendy Watanabe, A-C



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Director

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Telephone: (323) 267-2101
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December 23, 2008

To: Each Supervisor

From: Tom Tindall *TAM Tindall*
Director

Subject: **REMANUFACTURED PRINTER TONER CARTRIDGES**

Attached to this memo is a report prepared in response to the October 14, 2008 Board of Supervisors Motion – Remanufactured Toner Cartridges. It reports on the quality and reliability of remanufactured toner cartridges; the experience of other governmental jurisdictions that have adopted policies on the use of remanufactured cartridges; and the feasibility of implementing a pilot program requiring County agencies purchase remanufactured toner cartridges. The report, in summary, indicates the following:

- The quality of remanufactured toner cartridges has improved to the point where it matches original equipment manufacturer cartridges, while the cost remains lower.
- Other jurisdictions have successfully adopted the use of remanufactured cartridges.
- It is recommended that County conduct a six-month pilot project in three departments (ISD, Public Works and Auditor-Controller) that requires the exclusive use of remanufactured cartridges, where available, in all desktop printers and copiers at the time of cartridge replacement and report the results of the project.

If you have any questions please contact me or Joe Sandoval at (323) 267-2109 or jsandoval@isd.lacounty.gov.

TT:JS:z

Attachment

c: ISD Board Deputies
William T Fujioka, CEO
Ellen Sandt, DCEO
Ray Fortner, Counsel
Gail Farber, DPW
Wendy Watanabe, A-C

REPORT ON THE USE OF REMANUFACTURED PRINTER TONER CARTRIDGES

Background

Summary

This report has been prepared in response to the October 14, 2008 Board of Supervisors Motion – Remanufactured Toner Cartridges. It reports on the quality and reliability of remanufactured toner cartridges, as compared with new cartridges; the experience of other governmental jurisdictions that have adopted policies on the use of remanufactured cartridges; and the feasibility of implementing a pilot program requiring County agencies to purchase remanufactured toner cartridges, unless there is a compelling reason not to. Also, the Internal Services Department (ISD) has worked with County Counsel to research the legal and contractual issues associated with the use of remanufactured toner cartridges and the impact on original equipment manufacturer warranties and reports the following findings:

In response to the Board's motion, ISD undertook a review of the available literature on remanufactured toner cartridges which included the Green Guide, published by the National Geographic Society, reports by Gartner, Inc, a leading information technology research and advisory firm, and reports by the Responsible Purchasing Network, an international network of buyers dedicated to socially responsible and environmentally sustainable purchasing. Also consulted with were suppliers (Onestop, US Printer Group), cartridge remanufacturers (Clover Technologies Group, Micro Solutions Enterprises Printing Technologies, Inc.); original equipment manufacturers (Canon, Dell, Hewlett-Packard, Lexmark); and a non-profit trade association, the International Imaging Technology Council which provides information on the environmental benefits of recycled toner cartridges. Finally, government jurisdictions that use remanufactured cartridges were contacted to determine their current practices and policies.

In summary, the results of ISD's review indicate the following:

- The quality of remanufactured toner cartridges has improved to the point where it matches original equipment manufacturer cartridges, while the cost remains lower.
- Other jurisdictions have successfully adopted the use of remanufactured cartridges.
- It is recommended that County conduct a six-month pilot project in three departments (ISD, Public Works and the Auditor-Controller) that requires the exclusive use of remanufactured cartridges, where available, in all desktop printers and copiers at the time of cartridge replacement and report the results of the project.

Current Policy and Practice – Los Angeles County

On January 16, 2007, the Board of Supervisors adopted a comprehensive energy and environmental policy. Consistent with the policy, the ISD implemented a countywide effort to identify environmentally preferable products. This effort to transition to green products is scheduled over a five year period. ISD is completing the second year of the transition and has identified many green products that County departments may choose to purchase now. One such product is remanufactured toner cartridges for printers. ISD has established multiple agreements with suppliers that provide remanufactured toner cartridges.

On June 5, 2007, the Board of Supervisors adopted a motion to allow County Departments to donate their used printer cartridges to qualified charitable organizations. Consistent with this motion, used printer cartridges are forwarded to departmental surplus property coordinators. Qualified registered charitable organizations, such as the HERO Appreciation Network which have been authorized by the Board for the Los Angeles County Donation Program, are contacted by the surplus coordinator for regular pickups on used cartridges.

Remanufactured Toner Cartridges and Printer Warrantees

Each major printer manufacturer's warranty states that it will not apply to any defect, failure or damage caused by the use of remanufactured toner cartridges or any other cartridges not supplied by the original equipment manufacturer. The use of remanufactured toner cartridges will not completely void a printer manufacturer's warranty. Their use will void the warranty for damage caused by the remanufactured toner cartridge. The warranty will still cover repair and damages not caused by the cartridge. If a remanufactured toner cartridge fails and is determined to be the cause of equipment damage, the manufacturer of the toner cartridge is responsible to repair the printer damage caused by the defective cartridge or will be required to reimburse the customer for the cost of the repair.

Quality and Reliability of Remanufactured Toner Cartridges

Overview

The remanufactured toner cartridge industry began in the 1980's. At that time, the industry consisted primarily of small businesses that simply refilled cartridges with toner. In the 1990's, the industry began placing emphasis on replacing or restoring worn or exhausted components and enhancing the remanufacturing processes. Today, there are companies exercising quality control of the remanufacturing process with guarantees that their product will match or exceed that of an original equipment manufacturer.

In general, used cartridges undergoing remanufacturing are first disassembled and the parts inspected. Key parts include the drum, corona wire assembly, wiper blade, and roller. Worn or defective parts are replaced, and the cartridge is cleaned, refilled, and reassembled. Toner cartridges can be remanufactured several times. Most empty cartridges are remanufactured only once.

Quality

The remanufactured toner cartridge industry has developed sophisticated remanufacturing techniques with quality control tests, and provides quality testing certification for suppliers. Gartner, Inc., a leading information technology research and advisory firm, reports that the best vendors in the remanufactured business are installing new drums and correct toner, cleaning blades, and testing 100 percent of the cartridges. Almost all suppliers will guarantee that the quality of their remanufactured toner cartridges match or exceed that of an original equipment manufacturer cartridge.

Although some products perform better than others, one way to help ensure that remanufactured cartridges perform at the highest quality standards is to purchase them from an STMC (Standardized Test Methods Committee) certified manufacturer. STMC promotes standardized test methods to evaluate toner printer cartridge performance. A manufacturer that is STMC certified is one that has had their employees trained by an authorized trainer in approved test methods, attests to using these test methods, and has purchased the correct test equipment. These test methods are used to evaluate remanufactured cartridges compared to original equipment manufacturer cartridges.

Remanufactured Toner Cartridge Availability

Remanufactured toner cartridge supplies are limited by the availability of empty cartridges. Empty cartridges for newer printers may not be available. It normally takes about 1 to 1½ years after the introduction of a new printer model for the remanufacturing toner cartridge industry to produce cartridges for the new model.

Remanufactured Toner Cartridge Supplier Availability and End-of-Life Disposal

ISD has established multiple agreements with major suppliers that provide remanufactured toner cartridges with warranties stating if their defective cartridge causes damage to the printer, supplier shall provide a factory trained authorized service technician to repair the printer, or reimburse the customer for the full amount for the repair of the printer. These suppliers are required to be certified by the International Imaging Technology Council in toner printer cartridge quality assurance testing methods according to the industry's STMC guide for evaluating printer cartridges. The manufacturers of County supplied remanufactured toner cartridges have committed to dispose of end-of-life cartridges in a manner that complies with all environmental and human health and safety laws.

Experience of Other Governmental Jurisdictions That Have Adopted Policies on the Use of Remanufactured Cartridges

ISD contacted several jurisdictional agencies that purchase remanufactured toner cartridges to find out their experiences using them. The following is a summary of their experiences:

Contra Costa County, California

Contra Costa County implemented a remanufactured cartridge program in February 2008 to meet the Board of Supervisors mandated requirements for an environmentally preferable purchasing policy. They report that they have experienced some quality issues with the remanufactured cartridges and have had to change vendors due to supply issues. They have not experienced a printer being damaged by use of remanufactured cartridges. Contra Costa County maintains an agreement with a supplier of original equipment manufacturer cartridges as a backup in the event the remanufactured cartridge vendor can't meet their needs.

Hennepin County, Minnesota

In 2004, Hennepin County implemented a remanufactured toner cartridge pilot plan for a one-year period. The plan was successful and purchase of remanufactured toner cartridges is now mandated. They report that they are not experiencing problems using remanufactured cartridges. They have a contract for HP original equipment manufacturer toner cartridges for those cartridges that are unavailable under their remanufactured cartridge contract.

Ventura County, California

Ventura County has a remanufactured toner cartridge program as a result of their Board's policy.

There were a number of complaints in the beginning of the program. As seems to be the case with other jurisdictions, Ventura's experience using remanufactured toner cartridges has improved over time.

Seattle, Washington

The City of Seattle mandated the use of remanufactured toner cartridges whenever possible. They have implemented the remanufactured toner cartridges programs three times since the 1980's with early efforts having high rates of cartridge failures. Since 2007 the program has been successful with few reported failures. They have experienced a 30% reduction in cost of toner cartridges.

State of California

Purchase of remanufactured toner cartridges is not policy. However, the use of remanufactured toner cartridges is recommended and encouraged through establishment of their on-line Best Practices Manual and through their existing office supplies contract.

Feasibility of Implementing a Pilot Program Requiring County Agencies to Purchase Remanufactured Toner Cartridges

The quality and reliability of remanufactured toner cartridges have significantly improved in recent years. Most major manufacturers of remanufactured toner cartridges maintain high quality testing standards and produce products that are of equal quality to that of original manufacturer products. Also, since using remanufactured toner cartridges has significant cost and environmental advantages, it is recommended that the County implement a six-month pilot program for specific departments to purchase and use remanufactured toner cartridges in desktop printers and copiers at the time of cartridge replacement, unless there are compelling reasons not to. Following completion of the Pilot Program, a report will be provided to the Board of Supervisors advising of the results and providing a recommendation for extension or expansion of the program.

The departments recommended to be included in the pilot program are ISD, Public Works (Public Works is the County's Recycle Program Administrator), and the Auditor-Controller. These Departments represent small to medium size County departments with a full complement of printers. ISD, in particular, provides information technology support to most County departments and places great demand on printers.

Further, it is recommended that a pilot program committee, led by ISD, be tasked to report back to the Board on usage, consumption, quality issues and cost results of the pilot program. This committee will be responsible for preparing the final report, an intermediate status report and the following specific actions:

- Identifying desktop printers/copiers having remanufactured cartridges available that will be included in the program.
- Establish a reporting process to track (a) desktop printer/copier by department, model number, location, (b) remanufactured toner cartridge number, remanufactured toner cartridge cost, remanufacture name (c) OEM cartridge number, OEM cartridge cost, (d) number of prints/copies produced with remanufactured toner cartridge, (e) quality/related issues.
- Establish a reporting, documentation and resolution process in case an equipment malfunction occurs caused by a remanufactured cartridge.

- Ensure that products designated for this pilot program are purchased from County agreement vendors that maintain quality standards and provide recycling programs for returned cartridges and disposal of end-of-life cartridges in a manner that complies with all environmental and human health and safety laws.

Point of Contact:

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